

# CLAIMS

1. A polyester multifilament yarn comprising, as a principal component, a polyester polymer produced by polycondensing an aromatic dicarboxylate ester in the presence of a catalyst,

wherein

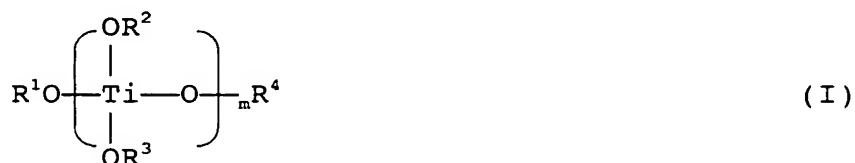
the catalyst comprises at least one member selected from mixtures (1) and reaction products (2);

the mixtures (1) for the catalyst

comprises a titanium compound component (A) mixed with phosphorus compound component (B),

in which mixtures (1),

the component (A) comprises at least one member selected from the group consisting of (a) titanium alkoxides represented by the general formula (I):



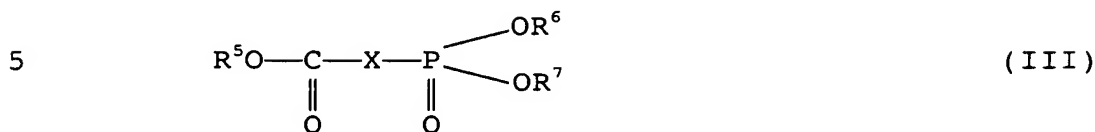
in which formula (I),  $\text{R}^1$ ,  $\text{R}^2$ ,  $\text{R}^3$  and  $\text{R}^4$  respectively and independently from each other represent a member selected from alkyl groups having 1 to 20 carbon atoms and a phenyl group,  $m$  represent an integer of 1 to 4, and when  $m$  represents an integer of 2, 3 or 4, the 2, 3 or 4  $\text{R}^2$ s and  $\text{R}^3$ s may be respectively the same as each other or different from each other, and (b) reaction products of the titanium compounds of the general formula (I) with aromatic polycarboxylic acids represented by the formula (II):



in which formula (II),  $n$  represents an integer of 2 to 4, or anhydrides of the acids of the formula (II); and

the component (B) comprises at least one

phosphorus compound represented by the general formula (III):



in which formula (III),  $\text{R}^5$ ,  $\text{R}^6$  and  $\text{R}^7$  respectively and independently from each other represent an alkyl group having 1 to 4 carbon atoms, X represents a member selected from a  $-\text{CH}_2-$  group and a  $-\text{CH}(\text{Y})-$  group (wherein Y represents a phenyl group),

the mixture (1) for the catalyst for the polycondensation being employed in an amount satisfying the requirements represented by the following expressions of relation (i) and (ii):

$$1 \leq M_p/M_{Ti} \leq 15 \quad (\text{i})$$

and

$$10 \leq M_p + M_{Ti} \leq 100 \quad (\text{ii})$$

wherein  $M_{Ti}$  represents a ratio in % of a value in millimoles of titanium element contained in the titanium compound component (A) to a value in moles of the aromatic dicarboxylate ester, and  $M_p$  represents a ratio in % of a value in millimoles of phosphorus element contained in the phosphorus compound component (A) to the value in moles of the aromatic dicarboxylate ester,

the reaction products (2) for the catalyst comprises a component (C) reacted with a component (D),

in which reaction products (2),

the component (C) comprises at least one member selected from the group consisting of (c) titanium alkoxides represented by the general formula (I) and (d) reaction products of the titanium alkoxides of the general formula (I) with aromatic polycarboxylic acids represented by the above-mentioned general formula (II) or anhydride of the acids; and

the component (D) comprises at least one



5. The polyester multifilament yarn as claimed in claim 1, wherein the polyester is a polyethylene terephthalate.

5 6. The polyester multifilament yarn as claimed in claim 1, wherein the polyester polymer has an L\* value of 60 to 90 and a b\* value of 1 to 10, determined in accordance with the L\*a\*b\* color specification of JIS Z 8729.

10 7. The polyester multifilament yarn as claimed in any one of claims 1 to 8, in the form of a woven or knitted fabric.